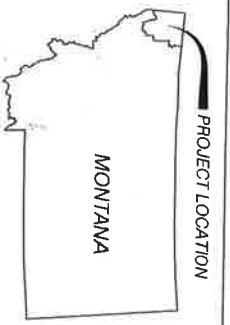


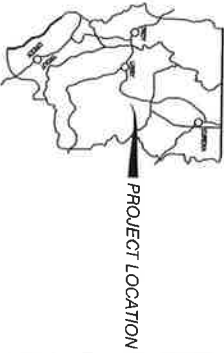
# UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE

REGION 1 - KOOTENAI NATIONAL FOREST  
LIBBY RANGER DISTRICT

## PLANS FOR PROPOSED NATIONAL FOREST SYSTEM ROADS GTR DUNN TIMBER SALE



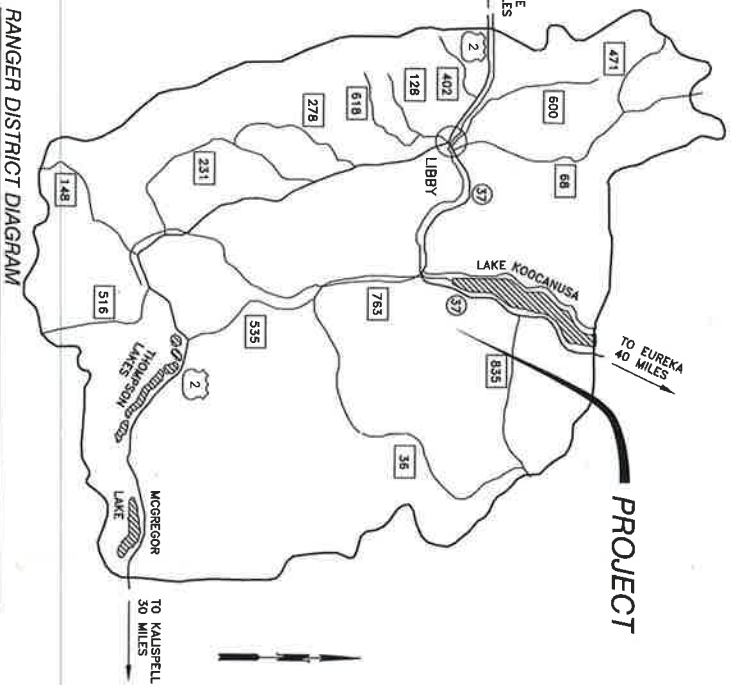
STATE VICINITY MAP  
NOT TO SCALE



KOOTENAI NATIONAL FOREST MAP  
NOT TO SCALE

ROAD NO.	ROAD NAME	LENGTH	C/R*
334	CRIPPLE HORSE FISHER RVR	4.48	R
525	DUNN CREEK WOLF CREEK	1.57	R
4911	CANYON FORKS	1.49	R
4913	HORNET RIDGE	5.22	R
4913G	HORNET RIDGE G SPUR	0.86	R
4914	WEST WOMA	0.66/0.20	R/C
4916	WOMA CREEK	5.35	R
4916A	WOMA CREEK A SPUR	0.24	R
4916B	WOMA CREEK B SPUR	0.33	C

\* C = CONSTRUCTION R = RECONSTRUCTION



RANGER DISTRICT DIAGRAM  
NOT TO SCALE

PREPARED BY: *[Signature]*  
PROJECT ENGINEER  
DATE: 12/16/14

REVIEWED BY: *[Signature]*  
SUPERVISORY CIVIL ENGINEER  
DATE: 12-22-14

MULTIPLE RESOURCE REVIEW BY: *[Signature]*  
DISTRICT RANGER  
DATE: 12/18/14

I CERTIFY THAT THIS PROJECT HAS BEEN  
DESIGNED IN ACCORDANCE WITH THE  
FOREST PLAN AND WITH SOUND  
ENGINEERING PRACTICE.  
*[Signature]*  
FOREST ENGINEER  
DATE: 1/21/15

SHEET INDEX	
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NEW ROAD PLAN & PROFILE	12-17
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U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

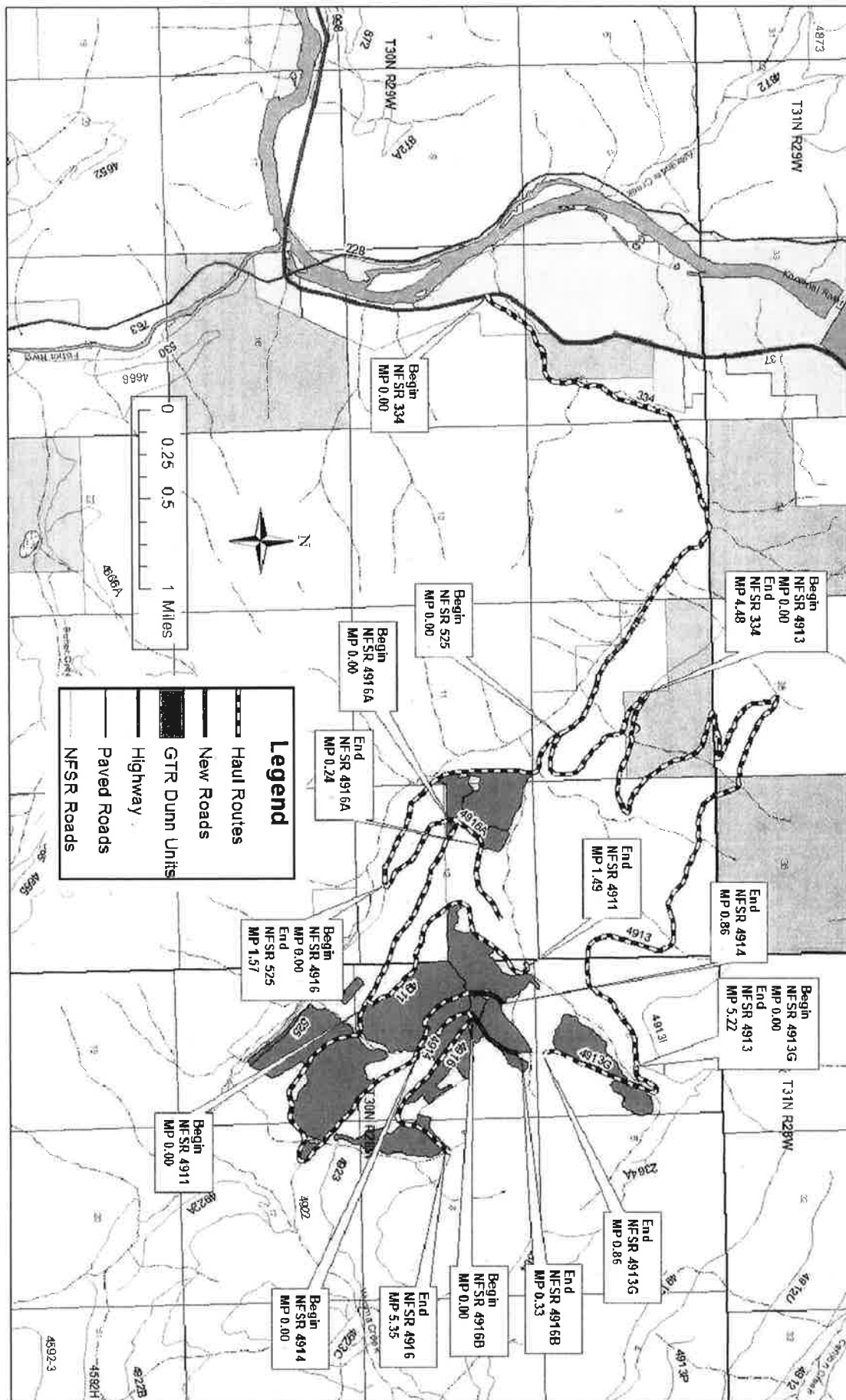
KOOTENAI NATIONAL FOREST  
GTR DUNN TIMBER SALE

DESIGNED BY  
K. WICKWARD 9/2014  
DRAWN BY  
NJM 4/22/14  
CHECKED BY  
NJM 5/2014

SHEET TITLE  
TITLE SHEET

SHEET NO.  
1 OF 23







# GENERAL NOTES

1. SECTION 201 - TOPS, LIMBS, AND STUMPS SHALL BE OUTSIDE OF CLEARING LIMITS.
2. SECTION 204 / 303 - UNSUITABLE OR OVERSIZED MATERIAL ENCOUNTERED DURING CONSTRUCTION OR RECONSTRUCTION SHALL BE PLACED ALONG THE TOE OF THE FILL AWAY FROM DRAINAGE, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
3. ALL AGGREGATE AND PIT RUN, AND MATERIAL IS GOVERNMENT FURNISHED. THE PRIMARY LOCATION FOR THESE MATERIALS WILL BE THE CRIPPLE HORSE PIT (RD. 4925) - SECTION 1, T31N, R29W.
4. SECTION 625 - ALL DISTURBED AREAS OUTSIDE OF THE ROADWAY TO BE SEEDED AND FERTILIZED.
5. ALL CULVERTS SHALL BE INSTALLED BETWEEN THE DATES OF MAY 1 TO OCTOBER 1 UNLESS APPROVED BY THE CO.
6. SCHEDULE OF WORK SHALL BE PROVIDED BY THE CONTRACTOR IN WRITING AT THE PRE-WORK MEETING. ANY CHANGES TO THE SCHEDULE OF WORK SHALL BE PRESENTED IN WRITING TO THE CO.
7. CONTRACTOR SHALL WORK MONDAY THROUGH FRIDAY. NO WORK SHALL BE CONDUCTED WEEKENDS OR FEDERAL HOLIDAYS. PRIOR APPROVAL MUST BE RECEIVED FROM THE CO PRIOR TO WORKING OUTSIDE THESE RESTRAINTS.
8. CONTRACTOR SHALL SUBMIT A DEWATERING PLAN AND AN EROSION CONTROL PLAN TO THE CO IN WRITING PRIOR TO THE START OF WORK. THE COST OF BOTH DEWATERING AND EROSION CONTROL ARE INCIDENTAL TO ITEM 60253 IN THIS CONTRACT.
9. CONTRACTOR IS REQUIRED TO PROVIDE TRAFFIC CONTROL INCLUDING CLOSURE DEVICES AND SIGNS. TRAFFIC CONTROL IS INCIDENTAL TO OTHER ITEMS IN THIS CONTRACT. A PLAN MUST BE PROVIDED TO THE CO PRIOR TO THE START OF WORK.
10. CULVERTS ON LIVE STREAMS SHALL BE INSTALLED DURING LOW FLOW IF POSSIBLE.



☐ REVISION  
☐

U.S. DEPARTMENT OF AGRICULTURE  
**FOREST SERVICE**  
 KOOTENAI NATIONAL FOREST  
 FILE NO.

**KOOTENAI NATIONAL FOREST**  
 GTR DUNN TIMBER SALE

DESIGNED BY  
 K. WICKWARD 9/2014  
 DRAWN BY  
 NJM 4/22/14  
 CHECKED BY  
 NJM 5/2014

SHEET TITLE  
**GENERAL NOTES**



[illegible]



# DRAINAGE LISTING

AS DESIGNED						AS BUILT						INSTALLATION			RIPRAP		BMP ITEMS					REMARKS			
STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAIN DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAIN DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	TYPE*	SKEW (DEGREES)	OUTLET DITCH (LF)	GASKETS REQUIRED	CLASS	INLET (CY)	OUTLET (CY)	STRAW BALES	SLASH FILTER DRAIN	FILTER FABRIC INLET		FILTER FABRIC OUTLET	SILT FENCE (LIN. FT.)	
NFSR 334																									
0.56																		1	0.5						OUTSLOPE ROAD, 4%
0.79			XXX																						DRIVEABLE DITCH ACROSS ROAD, LEFT
1.36																									
1.69			XXX															1	0.5						
2.50																									
2.81	18"	30'	XXX														3	1	1						
2.84																	1		0.5						
3.04			XXX														1		0.5						
3.21			XXX														1		0.5						
3.37			XXX														1		0.5						
3.66			XXX														1		0.5						
3.81			XXX														1		0.5						
4.00			XXX														1		0.5						
NFSR 525																									
0.68			XXX															1	0.5						
0.86			XXX															1	0.5						
1.27	18"	3'																							EXISTING 18" CMP, CLEAN BURIED OUTLET
1.35			XXX														1		0.5						EXISTING 18" CMP, JACK INLET
1.38																									
NFSR 4911																									
0.00																									
0.10																		1	0.25						DRAINAGE EXCAVATION, DITCH RT, 120 LF
0.24																		1	0.25						
0.31			XXX															1	0.5						
NFSR 4913																									
0.10			XXX																1	0.5					RECONSTRUCT DRAN DIP
0.34			XXX															1	0.5						RECONSTRUCT DRAN DIP
0.43			XXX															1	0.5						RECONSTRUCT DRAN DIP
0.53			XXX															1	0.5						RECONSTRUCT DRAN DIP
0.76																		1	0.25						RECONSTRUCT DRAN DIP
0.81			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.07			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.14			XXX															1	0.5						
1.22																		1	0.25						RECONSTRUCT DRAN DIP
1.30			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.41			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.46			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.60			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.73			XXX															1	0.5						RECONSTRUCT DRAN DIP
1.90			XXX															1	0.5						RECONSTRUCT DRAN DIP
NFSR 4913 CONTINUES																									

NFSR 4913 CONTINUES



# DRAINAGE LISTING

AS DESIGNED						AS BUILT						INSTALLATION				RIPRAP		BMP ITEMS					REMARKS	
STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAIN DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAIN DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	TYPE*	SKEW (DEGREES)	OUTLET DITCH (LF)	GASKETS REQUIRED	CLASS	INLET (CY)	OUTLET (CY)	STRAW BALES	SLASH FILTER DRAIN	FILTER FABRIC INLET	FILTER FABRIC OUTLET	SILT FENCE (LIN. FT.)	Corrections Shall Be 2.00" x 1/2" Unless Otherwise Stated Below Pipe Thickness Shall Be As Shown on The Summary of Quantities Sheet *See CULVERT CONSTRUCTION DETAILS Sheet **As Stated
NFSR 4913 CONTINUED																								
2.02		XXX														1		0.5						RECONSTRUCT DRAIN DIP
2.12		XXX														1		0.5						RECONSTRUCT DRAIN DIP
2.25		XXX														1		0.5						
2.39		XXX														1		0.5						
2.46																								DRAINAGE EXCAVATION, 4% OUTSLOPE
2.91	24"	40'														3	1	1						
3.10		XXX														1		0.5						RECONSTRUCT DRAIN DIP
3.37		XXX														1		0.5						RECONSTRUCT DRAIN DIP
3.82		XXX														1		0.5						RECONSTRUCT DRAIN DIP
4.10		XXX														1		0.5						DRAINAGE EXCAVATION, 4% OUTSLOPE
4.59																								
4.79		XXX														1		0.5						
4.88																1		0.25						DRAINAGE EXCAVATION, 4% OUTSLOPE
4.94																								
5.07																1		0.25						
5.11		XXX														1		0.5						
NFSR 4913G																								
0.14	18"	40'														1	0.5	0.5						BEGIN 500 LF SLUMP REMOVAL, INCORPORATE INTO
0.26	24"	32'														1	0.5	0.5						DRAINAGE EXCAVATION, DITCH RT, 80 LF
0.27	52"x37"	38'														3	1	1						EXISTING 18" CMP, JACK INLET
0.30	18"	30'														1	0.5	0.5						EXISTING 18" CMP, CLEAN INLET & OUTLET
NFSR 4914																								
0.02																								
0.09																1		1						EXISTING 18" CMP, JACK INLET
0.12																								EXISTING 18" CMP, CLEAN INLET & OUTLET
0.19																								EXISTING 18" CMP, CLEAN INLET & OUTLET
0.36																								
NFSR 4916																								
0.18																1		0.25						OUTSLOPE ROAD, 4%
0.28																1		0.25						EXISTING 18" CMP, JACK INLET
0.40																1		0.25						EXISTING 18" CMP, JACK INLET
0.53																1		0.25						
0.82																1		0.25						
1.02																1		0.25						
1.26																								
1.36																								
1.66																1		0.5						
1.70		XXX														1		0.5						
2.05		XXX														1		0.5						
2.20																1		0.25						
NFSR 4916 CONTINUES																								

SHEET NO.  
6 OF 23

SHEET TITLE  
DRAINAGE  
LISTING (2 OF 3)

DESIGNED BY  
K. WICKWARD 8/2014  
DRAWN BY  
NLM 4/22/14  
CHECKED BY  
NLM 5/2/14

KOOTENAI NATIONAL FOREST

GTR DUNN TIMBER SALE

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

DESIGN  
REVISION





# DRAINAGE LISTING

AS DESIGNED						AS BUILT						INSTALLATION						RIPRAP			BMP ITEMS					REMARKS																				
STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAIN DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	STATION OR MILE POST	CULVERT DIAMETER (INCHES)	CULVERT LENGTH (FEET)	ROLLING DRAIN DIP	BLIND DRAIN (LIN. FT.)	SURFACE DEFLECTOR (LIN. FT.)	TYPE*	SKEW (DEGREES)	OUTLET DITCH (LF)	GASKETS REQUIRED	CLASS	INLET (CY)	OUTLET (CY)	STRAW BALES	SLASH FILTER DRAIN	FILTER FABRIC INLET	FILTER FABRIC OUTLET	SILT FENCE (LIN. FT.)																							
NFSR 4916 CONTINUED																																														Corrugations Shall Be 2.03" x 12" Unless Otherwise Stated Below Sheet Pipe Thickness Shall Be As Shown on the Summary of Quantities *See "CULVERT CONSTRUCTION DETAILS" Sheet "As Staked"
2.37					24'												1		0.25							EXISTING 18" CMP, JACK INLET																				
2.44																										EXISTING 18" CMP, CLEAN OUTLET																				
2.54																																														
2.56			XXX														1		0.5																											
2.81					24'												1		0.25																											
3.21					26'												1		0.25																											
3.28			XXX														1		0.5																											
3.46					24'												1		0.25																											
3.53			XXX														1		0.5																											
3.60			XXX														1		0.5																											
3.88			XXX														1		0.5																											
4.04					26'												1		0.25																											
4.17					24'												1		0.25																											
4.39			XXX														1		0.5																											
4.58			XXX														1		0.5																											
4.80			XXX														1		0.5																											
5.08			XXX														1		0.5																											
NFSR 4916A																																														
0.21																										DRAINAGE EXCAVATION, 4% OUTSLOPE																				
NFSR 4916B																																														
0.06	18	34															1	0.5	0.5																											
																						</																								

SHEET NO.  
7 OF 23

SHEET TITLE  
DRAINAGE  
LISTING (3 OF 3)

DESIGNED BY  
K. WICKWARD 9/2014  
DRAWN BY  
NJM 4/22/14  
CHECKED BY  
NJM 5/2014

KOOTENAI NATIONAL FOREST

GTR DUNN TIMBER SALE

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

REVISION





**Cripple Horse Fisher River NFSR 334**

**SHEET NO.**  
**8 OF 23**

DESIGNED BY  
K. WICKWARD 9/2014

DRAWN BY  
NJM 4/22/14

CHECKED BY  
NJM 5/2014

GTR DUNN TIMBER SALE

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.





# RECONSTRUCTION LOG

## Canyon Forks NFSR 4911

## Hornet Ridge NFSR 4913

STATION OR MILE POST	PAY ITEM NUMBER	DESCRIPTION OF WORK	STATION OR MILE POST	PAY ITEM NUMBER	DESCRIPTION OF WORK
MP 0.00		Junction with NFSR 4916	0.00		Begin Project, Junction with NFSR 334
	23050	Begin Roadside Brushing		23050	Begin Roadside Brushing
	30357	Begin Road Reconditioning, Compaction Method A		30357	Begin Roadway Reconditioning
MP 0.10	62556	Seed and Fertilize all Disturbed Areas, Dry Method	0.10	20481	Re-Construct Existing Drain Dip
MP 0.24	20480	Install 22 LF Surface Water Deflector	0.34	20481	Re-Construct Existing Drain Dip
MP 0.31	20481	Install 18 LF Surface Water Deflector	0.43	20481	Re-Construct Existing Drain Dip
MP 1.44		Drainage Excavation, Type Dip	0.53	20481	Re-Construct Existing Drain Dip
		End Project	0.76	20480	Install 20 LF Surface Water Deflector (direct to ditch)
	20350	End Roadside Brushing	0.81	20481	Re-Construct Existing Drain Dip
	30357	End Road Reconditioning	1.07	20481	Re-Construct Existing Drain Dip
MP 1.49		End Road	1.14	20481	Drainage Excavation, Type Dip
			1.22	20480	Install 22 LF Surface Water Deflector
			1.30	20481	Re-Construct Existing Drain Dip
			1.41	20481	Re-Construct Existing Drain Dip
			1.46	20481	Re-Construct Existing Drain Dip
			1.60	20481	Re-Construct Existing Drain Dip
			1.73	20481	Re-Construct Existing Drain Dip
			1.90	20481	Re-Construct Existing Drain Dip
			2.02	20481	Re-Construct Existing Drain Dip
			2.12	20481	Re-Construct Existing Drain Dip
			2.25	20481	Drainage Excavation, Type Dip
			2.39	20481	Drainage Excavation, Type Dip
			2.46	20481	Drainage Excavation, Type 4% Outslope
			2.91	60270	Install 40 LF, 24" CMP
			3.10	20481	Drainage Excavation, Type Dip
			3.37	20481	Re-Construct Existing Drain Dip
			3.82	20481	Re-Construct Existing Drain Dip
			4.10	20481	Re-Construct Existing Drain Dip
			4.59	20481	Drainage Excavation, Type 4% Outslope
			4.79	20481	Drainage Excavation, Type Dip
			4.88	20480	Install 20 LF Surface Water Deflector
			4.94	20481	Drainage Excavation, Type 4% Outslope
			5.07	20480	Install 26 LF Surface Water Deflector
			5.11	20481	Drainage Excavation, Type Dip
			5.22		Junction NFSR 4613G, Hornet Ridge Road G Spur, Right
				20350	End Roadside Brushing
				30357	End Road Reconditioning



U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

### KOOTENAI NATIONAL FOREST

GTR DUNN TIMBER SALE

DESIGNED BY  
K. WICKWARD 9/2014  
DRAWN BY  
NJM 4/22/14  
CHECKED BY  
NJM 5/20/14

SHEET TITLE  
ROAD LOG  
RD.4911 & 4913

SHEET NO.  
9 OF 23



# RECONSTRUCTION LOG

Hornet Ridge G NFSR 4913G				West Wyoma NFSR 4914			
STATION OR MILE POST	PAY ITEM NUMBER	DESCRIPTION OF WORK	STATION OR MILE POST	PAY ITEM NUMBER	DESCRIPTION OF WORK	STATION OR MILE POST	PAY ITEM NUMBER
0.00	23050	Begin Project, Junction with NFSR 4613	0	23050	Junction with NFSR 4916		
	30357	Begin Roadside Brushing		30357	Begin Roadside Brushing		
0.13	20481	Remove Berm	0.01	25101	Remove slump material from road above, reestablish 14' wide outside road		
0.14	60270	Install 40 LF, 18" CMP	0.02	20478	Begin Slump Removal, Blend into road with 4% outslope.		
0.17	20481	Remove Berm	0.03	20478	End Slump Removal, Blend into road with 4% outslope.		
0.25	60270	Install 32 LF, 24" CMP, See Sheet 17 of 23	0.06	20419	Existing Drain Dip, Construct 20 LF outlet ditch		
0.27	60270	Install 38 LF, 57" x 38" CMPA, See Sheet 17 of 23	0.09	20419	Construct Catch Basin, 1 CY Class 1 Riprap, Begin 60 LF Ditch Excavation		
0.30	20404	Place Unclassified Borrow, 70 CY, Local Source Designated by CO/ER	0.11	20419	End Ditch Construction, Begin Existing Ditch		
0.36	60270	Install 30 LF, 18" CMP	0.12	60710	Existing 18" CMP Culvert, Jack crushed inlet		
		End Project	0.19	60752	Existing 18" CMP Culvert, Clean Inlet & Outlet		
	23050	End Roadside Brushing	0.27	20404	Place Unclassified Borrow, 16 CY, GFM @ cut slope above road		
	30357	End Roadway Reconditioning	0.34	20404	Place Unclassified Borrow, 4 CY, GFM @ cut slope above road		
			0.36	60752	Existing 18" CMP Culvert, Clean Inlet & Outlet		
				20404	Place Unclassified Borrow, 10 CY, GFM @ cut slope above road		
			0.49		End Existing Road, Begin New Road Construction		
				23050	End Roadside Brushing		
				30357	End Roadway Reconditioning		
					Begin Road Construction		
			0.66		End Road Construction		

SHEET NO.  
10 OF 23

SHEET TITLE  
ROAD LOG  
RD. 4913G & 4914

DESIGNED BY  
K. WICKWARD 9/2014

DRAWN BY  
NJM 4/22/14

CHECKED BY  
NJM 6/2014

KOOTENAI NATIONAL FOREST

GTR DUNN TIMBER SALE

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.





# RECONSTRUCTION LOG

Wyoma Creek NFSR 4916

Wyoma Creek A Spur NFSR 4916A

STATION OR MILE POST	PAY ITEM NUMBER	DESCRIPTION OF WORK	STATION OR MILE POST	PAY ITEM NUMBER	DESCRIPTION OF WORK
0.00	23050	Begin Road, Junction with NFSR 525	0.00	23050	Begin Project, Junction with NFSR 4916
	30357	Begin Roadside Brushing		30357	Begin Roadside Brushing
	30650	Begin Roadway Reconditioning		30357	Begin Roadway Reconditioning
		Begin Dust Abatement	0.21	20481	Outslope Road
0.18	20480	Install 26 LF Surface Water Deflector			End of Project, Corner of Unit 42S, road continues
0.28	20480	Install 26 LF Surface Water Deflector		23050	End Roadside Brushing
0.40	20480	Install 26 LF Surface Water Deflector		30357	End Roadway Reconditioning
0.53	20480	Install 22 LF Surface Water Deflector			
0.82	20480	Install 24 LF Surface Water Deflector			
1.02	20480	Install 20 LF Surface Water Deflector			
1.26	20481	Drainage Excavation, Type Outslope Road 4%			
1.36	60710	Existing 18" CMP, Jack crushed Inlet			
1.66	60710	Existing 18" CMP, Jack crushed Inlet			
	32222	Place 20 CY Pit Run, 2" Max, Compaction Method B			
1.70	20481	Construct Drain Dip			
2.05	20481	Construct Drain Dip			
2.20	20480	Install 24 LF Surface Water Deflector			
2.37	20480	Install 24 LF Surface Water Deflector			
2.44	60710	Existing 18" CMP, Jack crushed Inlet			
2.54	60752	Existing 18" CMP, Clean Outlet			
2.56	20481	Construct Drain Dip			
2.81	20480	Install 24 LF Surface Water Deflector			
3.21	20480	Install 26 LF Surface Water Deflector			
3.28	20481	Construct Drain Dip			
3.46	20480	Install 24 LF Surface Water Deflector			
3.53	20481	Construct Drain Dip			
3.60	20481	Construct Drain Dip			
3.69	30357	Begin Slump Repair, Incorporate in roadbed or sidecast			
3.87	30357	End Slump Repair			
3.88	20481	Construct Drain Dip			
4.04	20480	Install 26 LF Surface Water Deflector			
4.17	20480	Install 24 LF Surface Water Deflector			
4.39	20481	Construct Drain Dip			
4.47	60752	Existing 18" CMP, Clean Outlet			
4.58	20481	Construct Drain Dip			
4.80	20481	Construct Drain Dip			
5.08	20481	Construct Drain Dip			
5.35		End Project, Junction NFSR 4924 Right			
	23050	End Roadside Brushing			
	30357	End Roadway Reconditioning			
	30650	End Dust Abatement			



U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

KOOTENAI NATIONAL FOREST

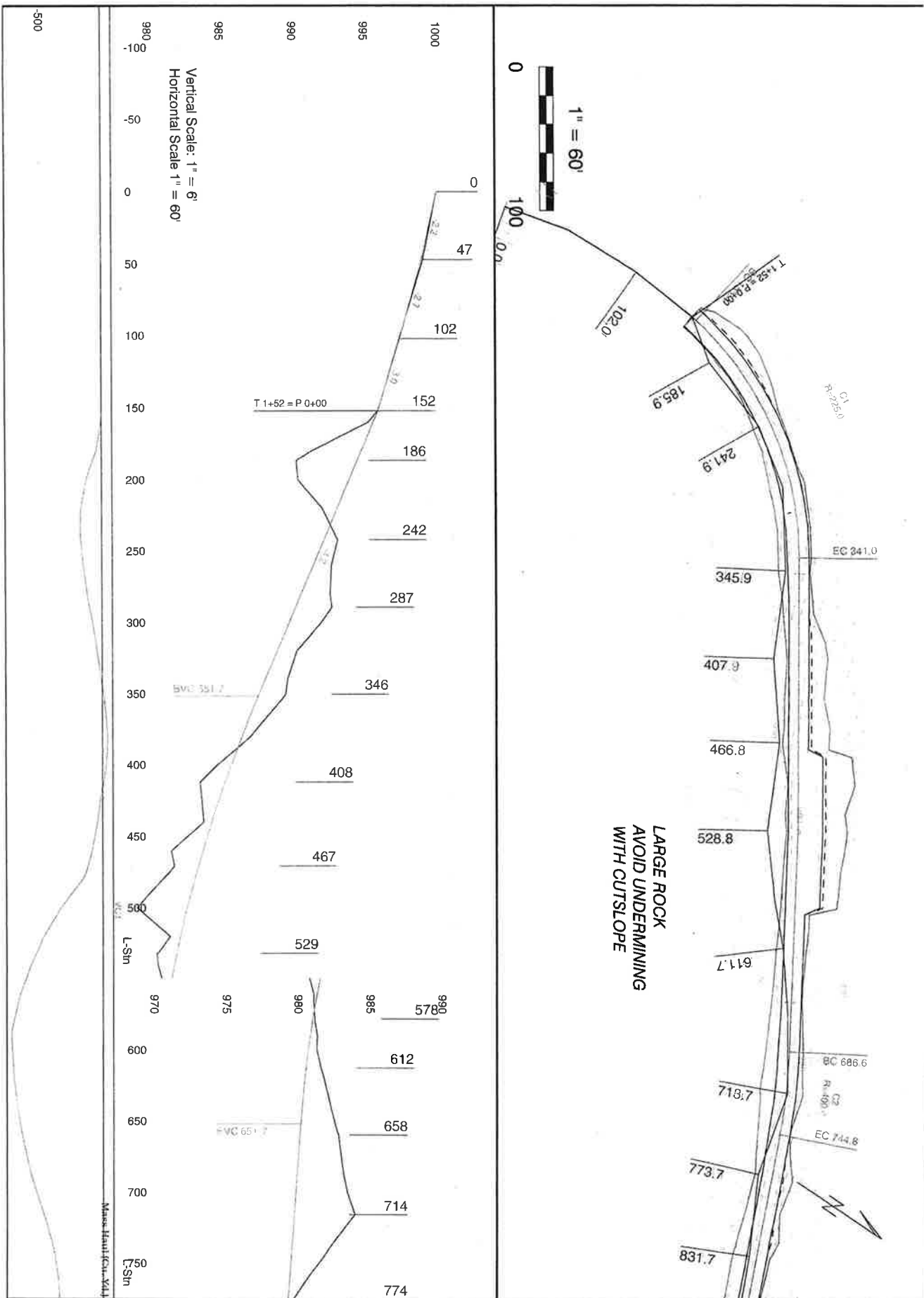
GTR DUNN TIMBER SALE

DESIGNED BY  
K. WICKWARD 8/2014  
DRAWN BY  
NUM 4/22/14  
CHECKED BY  
NUM 5/20/14

SHEET TITLE  
ROAD LOG  
RD. 4916 & 4916A

SHEET NO.  
11 OF 23

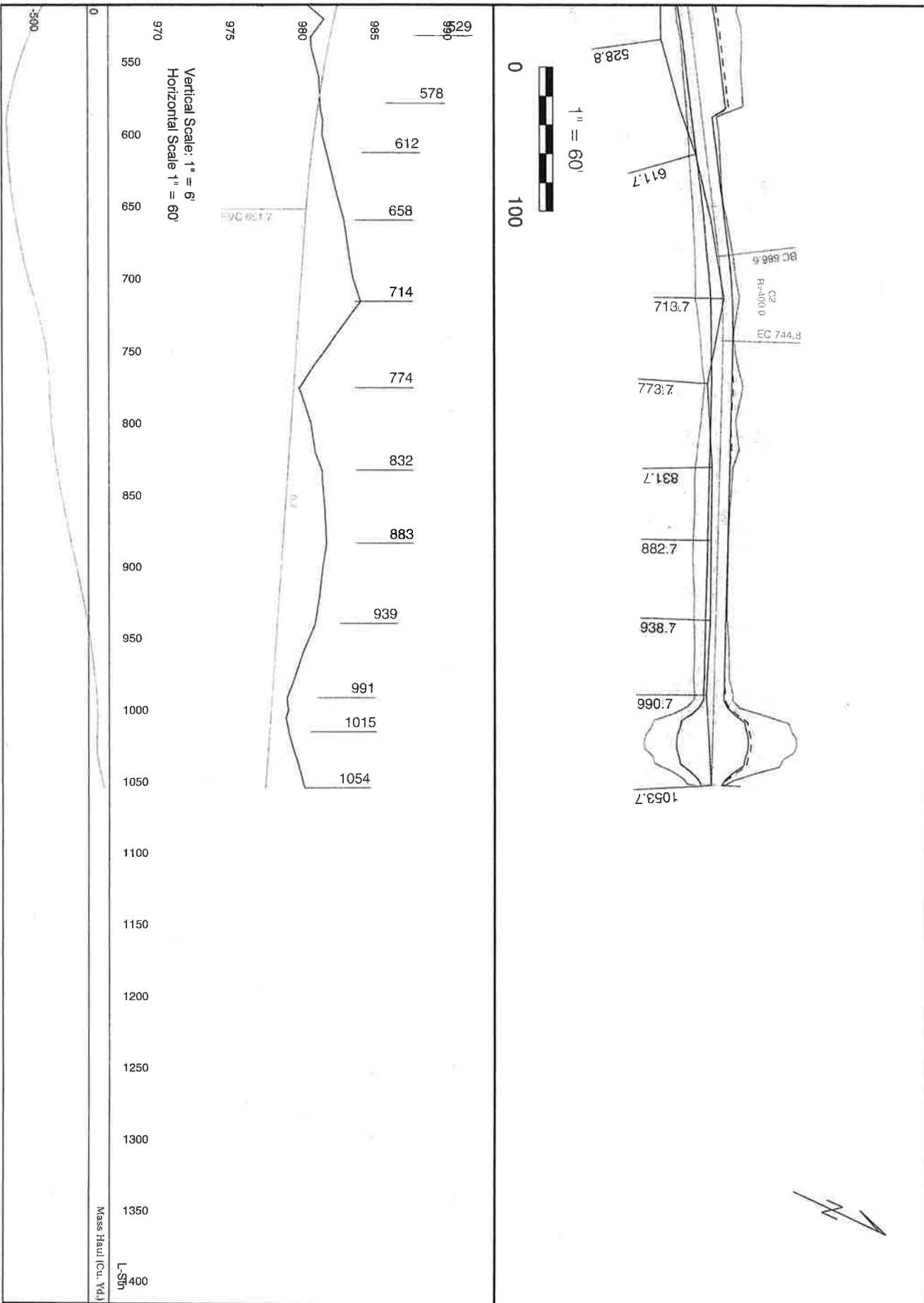




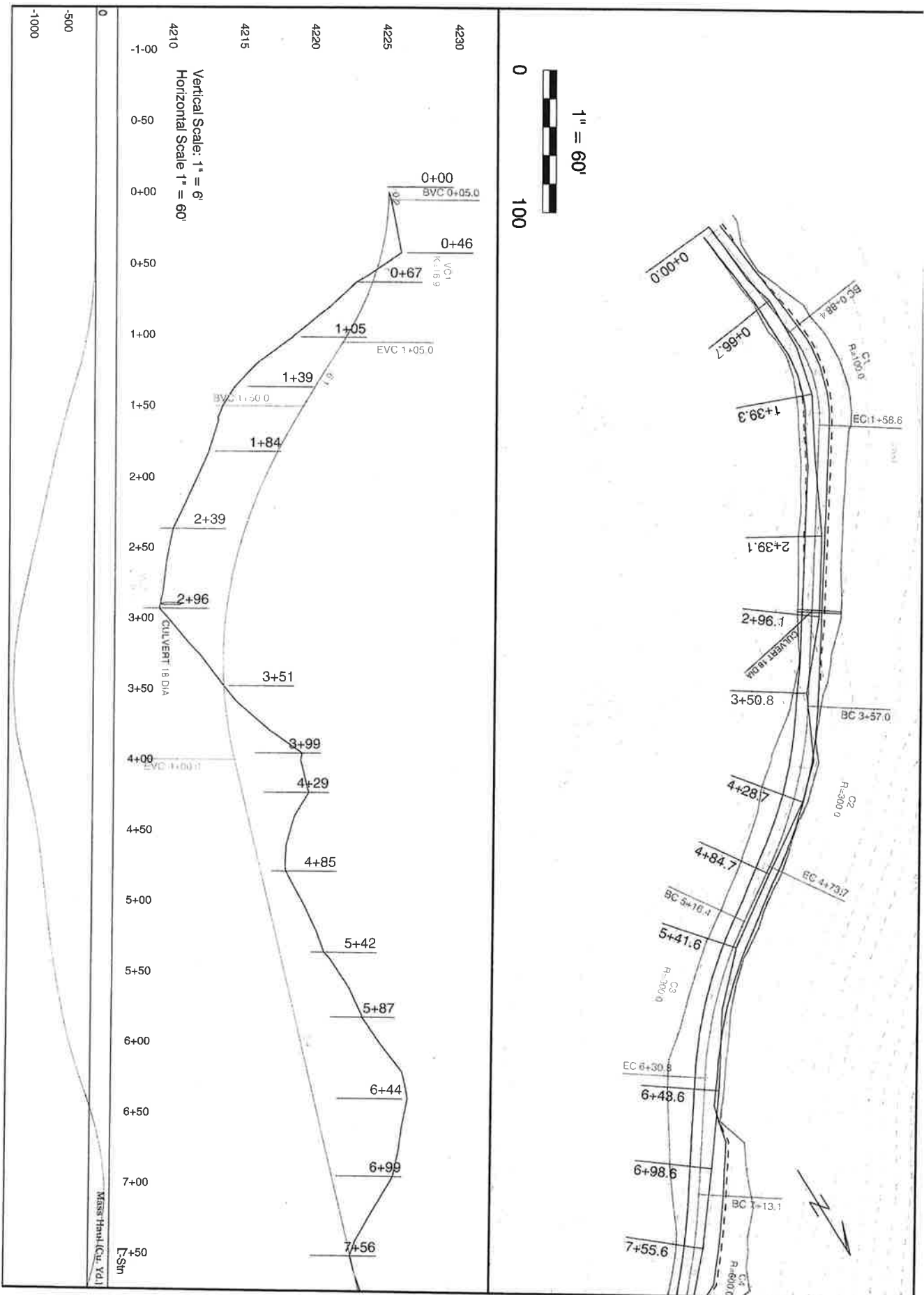
SHEET NO.  
12 OF 23

<b>SHEET TITLE</b> <b>NFSR 4914</b> <b>PLAN AND</b> <b>PROFILE</b>	DESIGNED BY: KMW 5/23/2014	<b>KOOTENAI NATIONAL FOREST</b>  <b>GTR DUNN TIMBER SALE</b>	U.S. DEPARTMENT OF AGRICULTURE <b>FOREST SERVICE</b> KOOTENAI NATIONAL FOREST FILE No.	Revision _____	
	DRAWN BY: KMW 5/23/2014  CHECKED BY: NJM 5/23/2014				

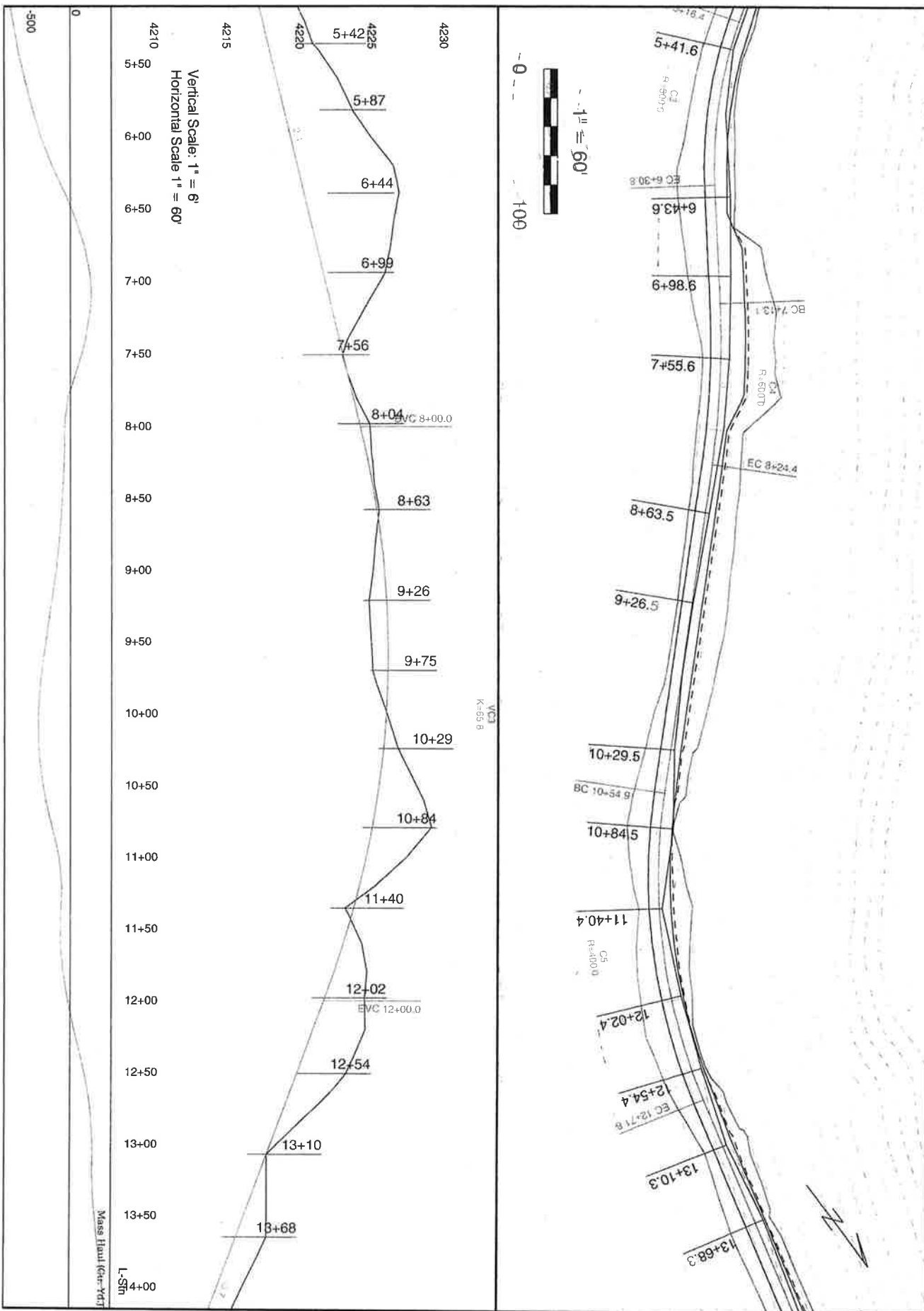




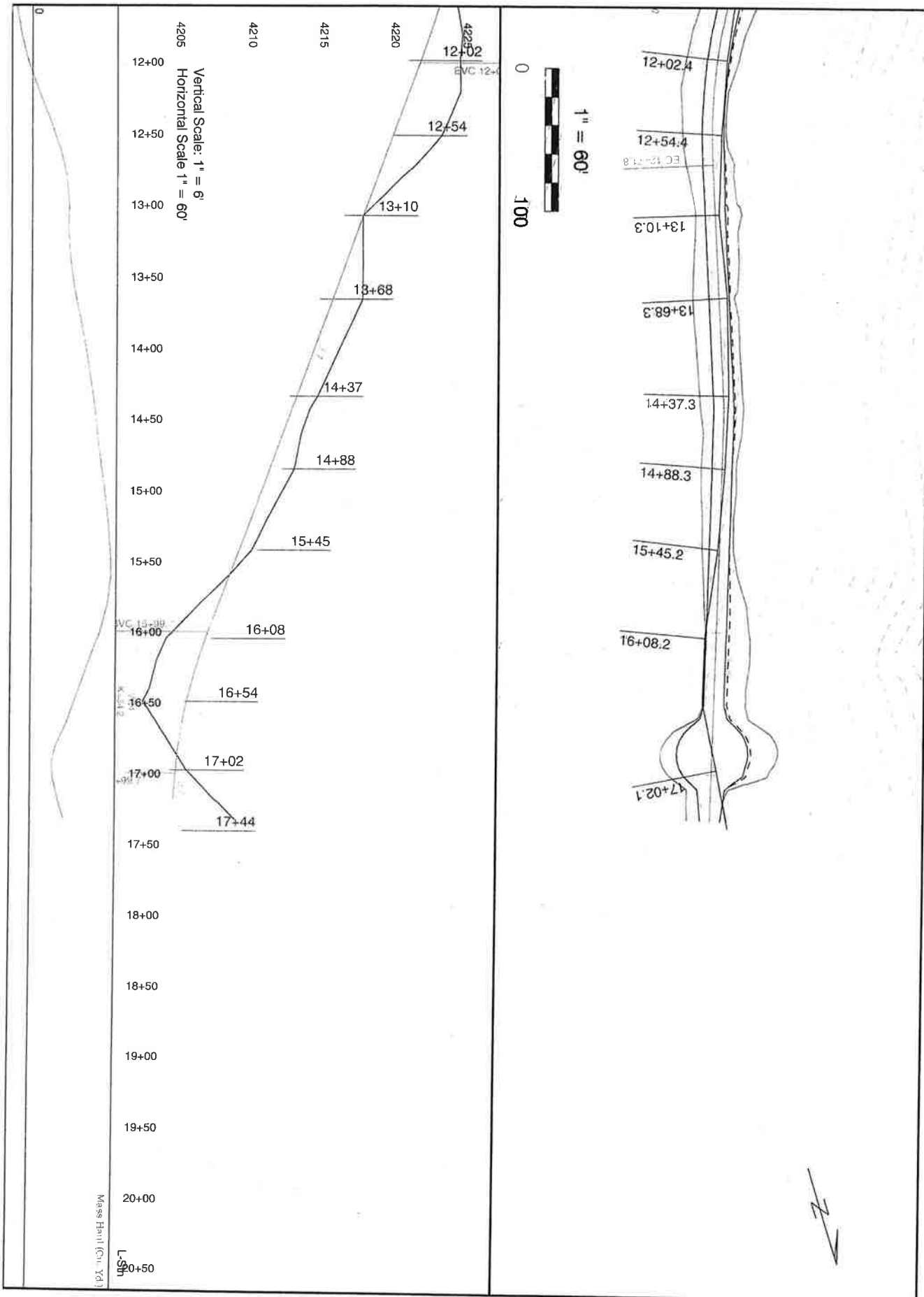














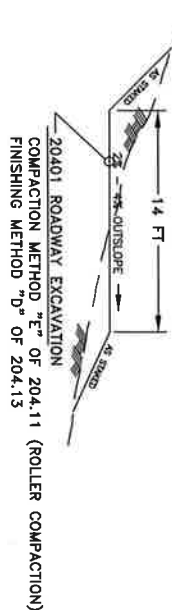




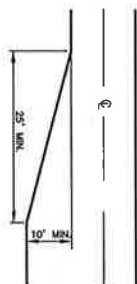
# NEW CONSTRUCTION DETAILS

## ROADWAY CROSS SECTION DETAIL TYPICAL

RD NO.	STATION TO STATION	RD NO.	STATION TO STATION
4914	34+85 - 45+39		
4916B	0+00 - 17+42		



## TURNOUT CONSTRUCTION DETAIL (LEFT OR RIGHT)



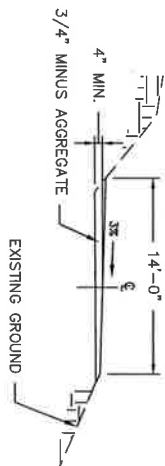
TURNOUT 110 FT MINIMUM

### NOTES:

- DESIGN CUT/SLOPE RATIOS ARE BASED ON COMMON MATERIALS, IF OTHER MATERIALS ARE ENCOUNTERED, THE FOLLOWING SHALL APPLY:
  - COMMON: 1:1
  - SLOPES >50%: 3/4:1
  - RIPPALE ROCK: 1/2:1
  - SOLID ROCK: 1/4:1
- CONSTRUCTION TOLERANCE "J" SHALL APPLY:
  - ROADBED WIDTH: +2 FEET
  - SUBGRADE ELEV.: ±3 FEET
  - CENTERLINE ALIGNMENT: ±3 FEET
  - CUT/FILL SLOPES: ±3 FEET

# RECONSTRUCTION DETAILS

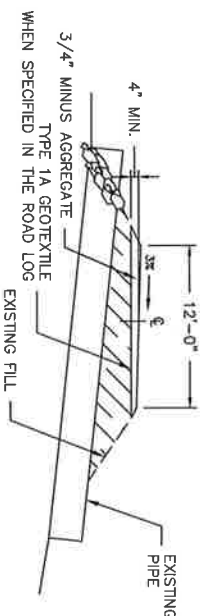
## AGGREGATE PLACEMENT DETAIL FOR SPOT PLACEMENT



### NOTES:

- 3/4" MINUS AGGREGATE WILL BE GOVERNMENT PROVIDED AND SHALL BE OBTAINED FROM THE CRIPPLE HORSE PIT, RD. 4925.
- THE AGGREGATE SHALL BE LAYED DOWN IN A LIFT WITH A COMPACTED THICKNESS OF 4".
- EACH LIFT SHALL BE COMPACTED USING A STEEL-WHEELED, VIBRATORY ROLLER COMPACTOR.
- THE LENGTH OF PLACEMENT IS AS STAKED BY THE ENGINEERING REPRESENTATIVE.

## AGGREGATE PLACEMENT DETAIL FOR COVER OVER CULVERTS



### NOTES:

- 3/4" MINUS AGGREGATE WILL BE GOVERNMENT PROVIDED AND SHALL BE OBTAINED FROM THE CRIPPLE HORSE PIT, RD. 4925.
- THE AGGREGATE SHALL BE LAYED DOWN IN A LIFT WITH A MINIMUM COMPACTED THICKNESS OF 4".
- EACH LIFT SHALL BE COMPACTED USING A STEEL-WHEELED, VIBRATORY ROLLER COMPACTOR.
- THE LENGTH OF PLACEMENT IS AS STAKED BY THE ENGINEERING REPRESENTATIVE.

DRAWINGS NOT TO SCALE



U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

KOOTENAI NATIONAL FOREST

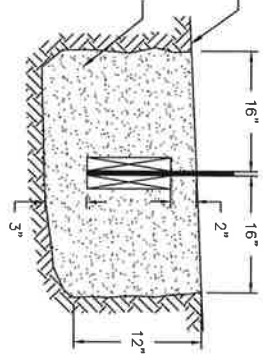
GTR DUNN TIMBER SALE

DESIGNED BY  
K. WICKWARD 9/2014  
DRAWN BY  
NJM 4/22/14  
CHECKED BY  
NJM 5/20/14

SHEET TITLE  
CONSTRUCTION  
DETAILS

SHEET NO.  
18 OF 23

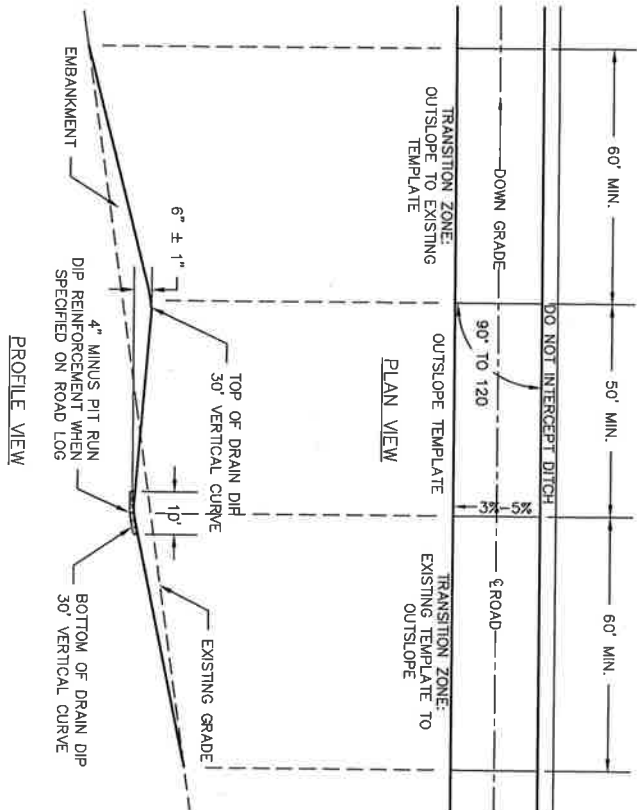
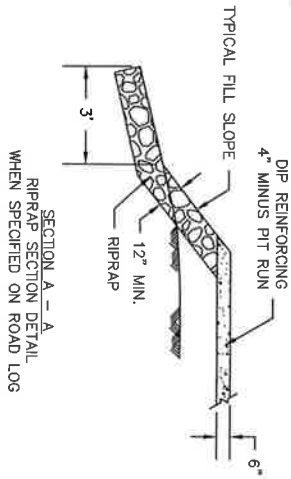
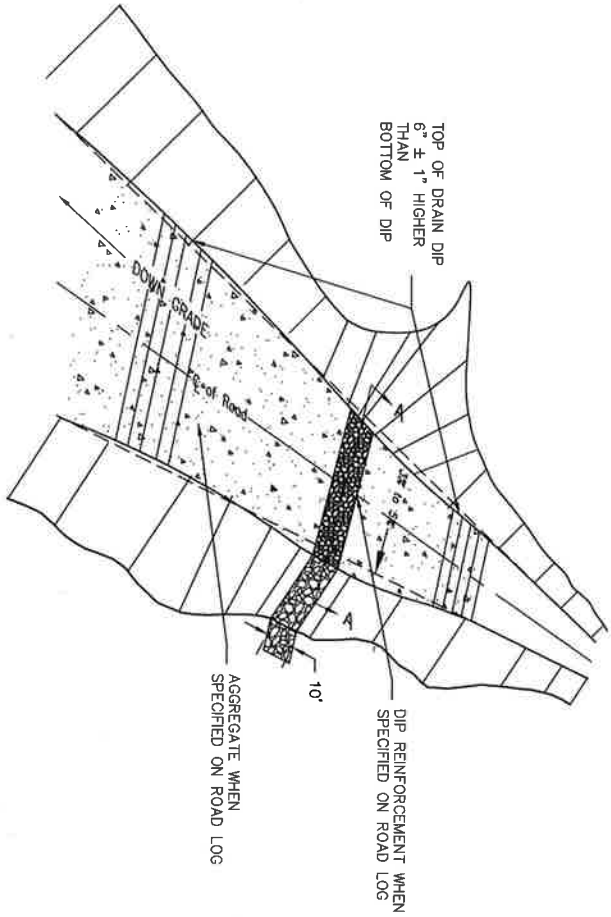


[illegible]

**SHEET NO.**  
**19 OF 23**



# DRAIN DIP DETAILS



## NOTES:

1. EXCAVATION BELOW THE EXISTING GRADE LINE WILL BE USED AS EMBANKMENT ON THE DOWN GRADE SIDE OF THE DIP. COMPACTION METHOD D.
2. ALL DISTURBANCES SHALL BE KEPT WITHIN THE LIMITS OF THE DRAIN DIP.
3. AGGREGATE, DIP REINFORCEMENT, OR RIPRAP WILL ONLY BE REQUIRED WHEN SPECIFIED IN THE DRAINAGE LISTING OR RECONSTRUCTION LOG.

DRAWINGS NOT TO SCALE

SHEET TITLE  
DRAIN DIP  
DETAILS

DESIGNED BY  
K. WICKWARD 9/2014  
DRAWN BY  
NUM 4/22/14  
CHECKED BY  
NUM 5/2014

KOOTENAI NATIONAL FOREST  
GTR DUNN TIMBER SALE

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

REVISION

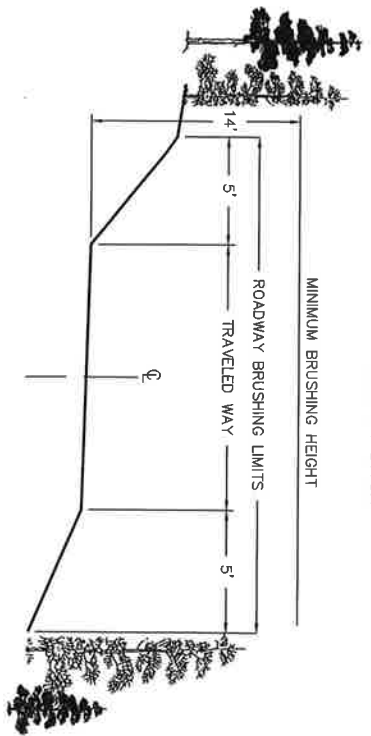


SHEET NO.  
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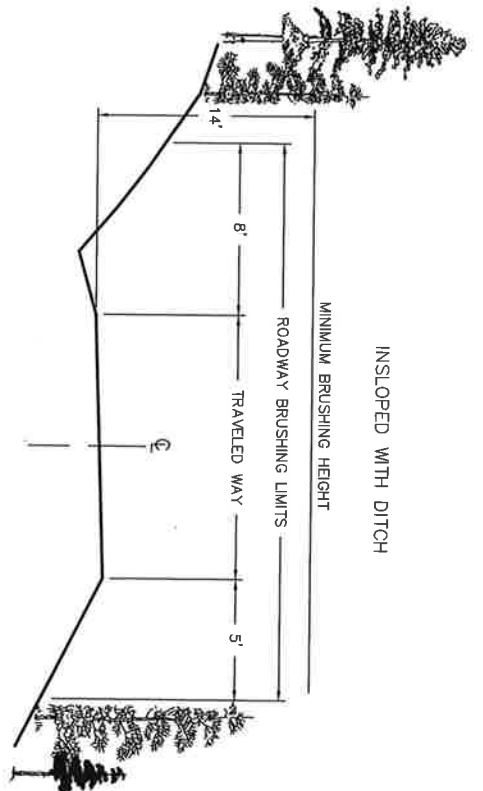


# BRUSHING LIMITS

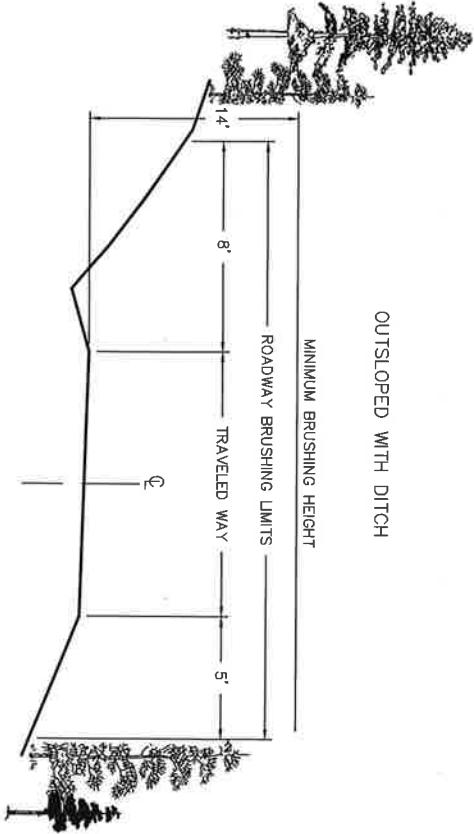
OUTSLOPED WITHOUT DITCH



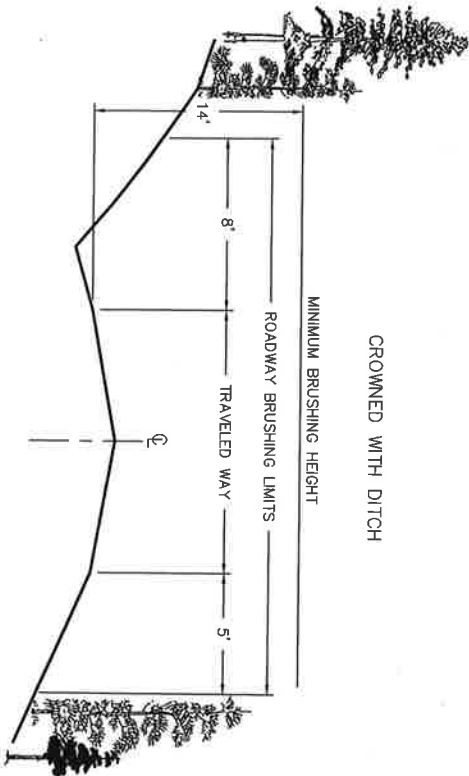
INSLOPED WITH DITCH



OUTSLOPED WITH DITCH



CROWNED WITH DITCH



DRAWINGS NOT TO SCALE



REVISION	Δ

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

KOOTENAI NATIONAL FOREST  
GTR DUNN TIMBER SALE

DESIGNED BY  
K. WICKWARD 6/2014  
DRAWN BY  
NUM 4/22/14  
CHECKED BY  
NUM 5/2014

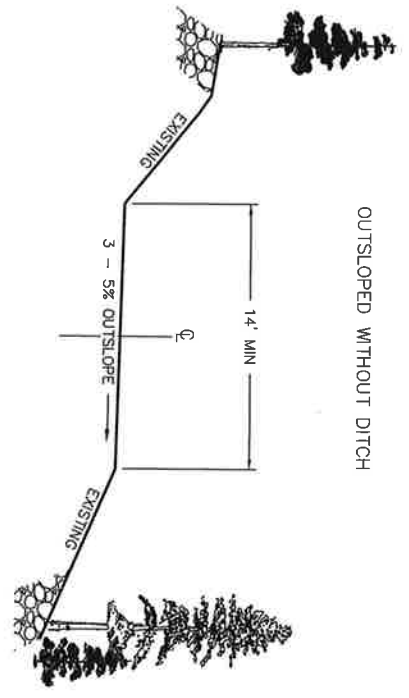
SHEET TITLE  
BRUSHING  
DETAILS

SHEET NO.  
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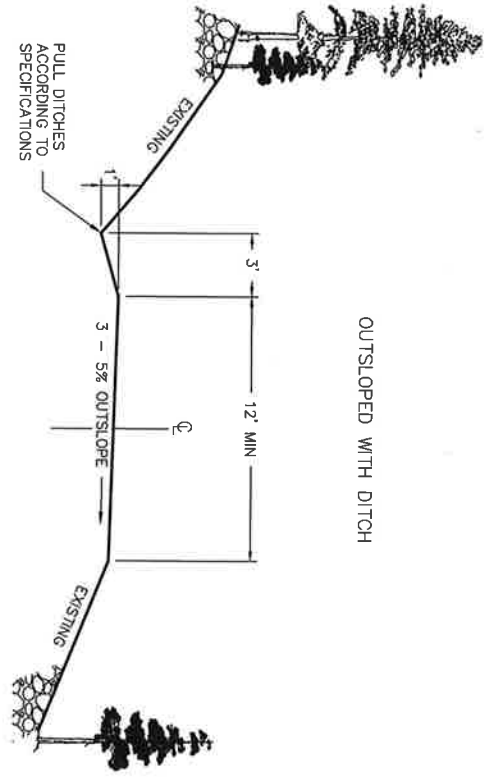


# RECONDITIONING LIMITS

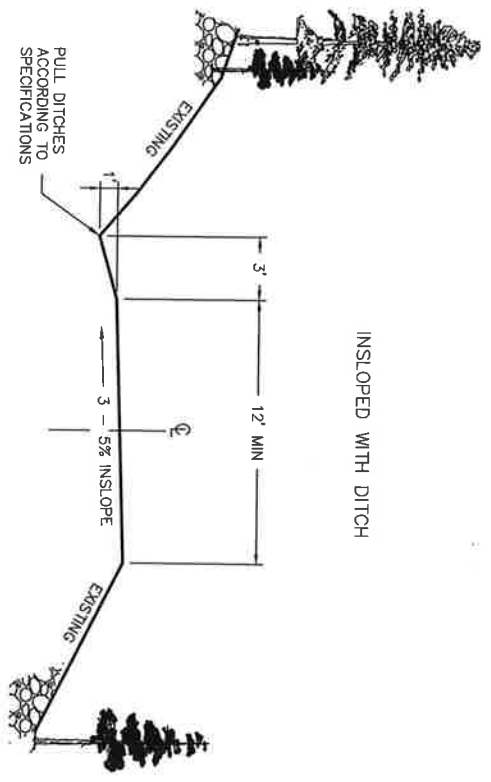
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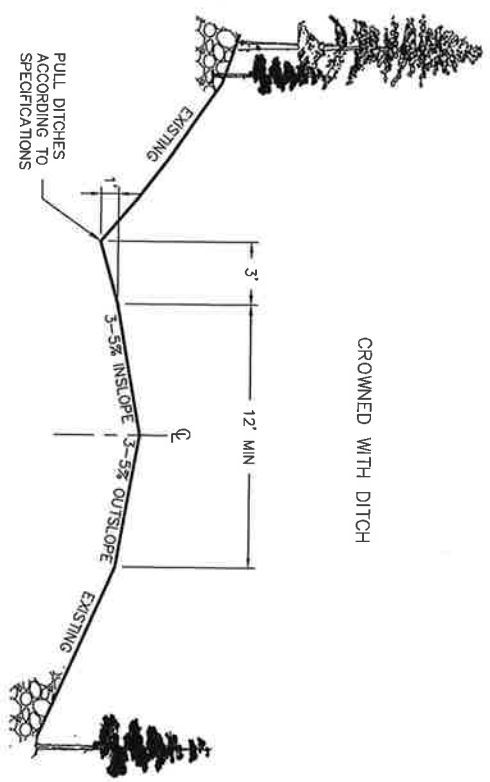
OUTSLOPED WITH DITCH



INSLOPED WITH DITCH



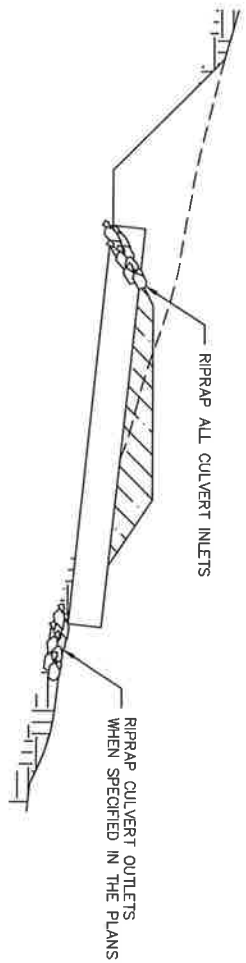
CROWNED WITH DITCH



DRAWINGS NOT TO SCALE

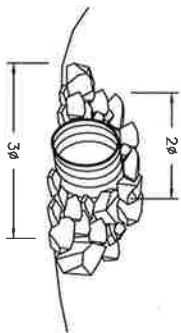


# TYPE II CULVERT INSTALLATION WITH REINFORCEMENT



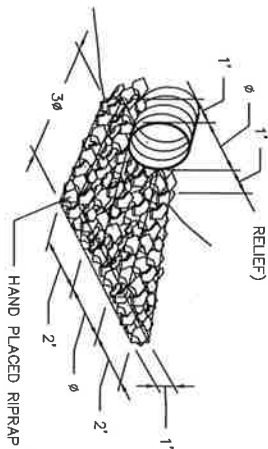
## INLET RIPRAP INSTALLATION

INLET RIPRAP PLACEMENT INCIDENTAL TO PAY ITEM 60250A

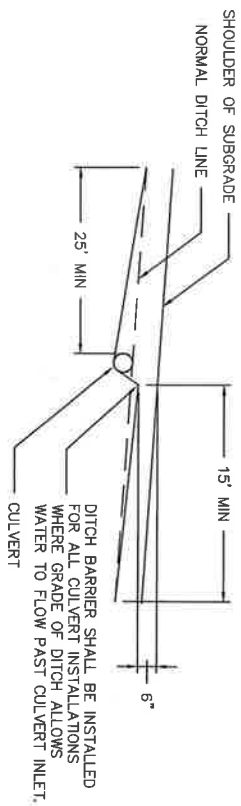


## OUTLET RIPRAP INSTALLATION

OUTLET RIPRAP PLACEMENT INCIDENTAL TO PAY ITEM 60250A IF SPECIFIED IN THE PLANS. (THIS DETAIL ONLY FOR DITCH RELIEF)



## DITCH BLOCK DETAIL



DRAWINGS NOT TO SCALE



REVISION	DATE

U.S. DEPARTMENT OF AGRICULTURE  
FOREST SERVICE  
KOOTENAI NATIONAL FOREST  
FILE No.

KOOTENAI NATIONAL FOREST

GTR DUNN TIMBER SALE

DESIGNED BY  
K. WICKWARD 9/2014  
DRAWN BY  
NUM 4/22/14  
CHECKED BY  
NUM 5/2014

SHEET TITLE  
CULVERT TYPE II  
INSTALLATION

SHEET NO.  
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